DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 2 May 2008 regarding claim 18 have been fully considered but they are not persuasive.

In re page 13, Applicant's Representative states: "Mishima fails to teach the presence of a transition from a special playback to a normal playback."

In light of Mishima's explicit disclosure of "a digital video signal record and playback device" in Col 1, lines 11-12. Clearly, one of ordinary skill in the art understands the reason a special playback (particularly a high-speed playback) is performed is so the viewer can access program material he or she intends to play normally.

Furthermore, Mishima et al explicitly discloses the ability of the user to enter a normal playback command, as cited in the previous office action.

Mishima et al do not explicitly disclose the effects of the transition from special to normal playback. However, one of ordinary skill in the art would recognize that the functions would be symmetrical to those explicitly disclosed for the transition from normal to special playback.

2. Applicant's arguments with respect to claims 18 and 23-45 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. Claims 23, 34, and 45 are objected to because of the following informalities: The claims recite "said reproduction speed during a high-speed playback and being higher

than said reproduction speed during a normal playback." The Examiner believes the claim should read –said reproduction speed during a high-speed playback being higher than reproduction speed during a normal playback.-- Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 23-30, 32-41, and 43-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Mishima et al (6,009,236).

Regarding claim 23, Mishima et al disclose a reproducing device adapted to play back video data recorded on an information recording medium, the reproducing device comprising:

- a controller adapted to set a reproduction speed of the video data (Col 37, line 36 "special playback is performed"), said reproduction speed during a high-speed playback being higher than said reproduction speed during a normal playback (Col 29, lines 54-55 "a 15 times speed special playback picture can be obtained");
- a drive adapted to read out said video data from the information recording medium (Col 27, lines 53-55 "video information read from the recording medium is inputted from an input terminal 20 to a demodulator 21"), said video data including main track data being read out during said normal

playback and low resolution data being read out during said high-speed playback (Col 20, lines 39-43 "At the time of the special playback, a decoding mode is switched over in accordance with the operating state of the device so that a rough picture can be decoded by decoding only the coded data of low resolution"); and

- a decoder adapted to generate an output image from said video data (), said output image being viewable on a screen (Fig. 10, item 782 "Video Signal Decoder" and item 784 "Monitor"),
- wherein said screen is divisible into a number of areas (Col 37, lines 44-47 "the P4 picture is played back in the area 1, the P3 picture is played back in the area 2, the P2 picture is played back in the area 3, and the P1 picture is played back in the area 4 and the I picture in the area 5"), said number during said high-speed playback being variable in accordance with said reproduction speed (Col 29, lines 45-55 "Consequently, when the high speed playback speed is increased, after only the data of the area 2 located at the central part of the screen is read the optical head jumps to the front of the subsequent GOP so that only the data in the area 2 that can be read is inputted to the buffer memory 22. In this case, the format decoder 23 decodes only the area 2 of the I picture that can be read. On the other hand, the areas 1 and 3 whose data are not read are masked by the gray data, and a high speed playback picture is outputted. Consequently, in the case where one GOP is

set to 15 frames, a 15 times speed special playback picture can be obtained").

Regarding claim 24, Mishima et al disclose a reproducing device wherein each of said areas partially displays different frames of said low resolution data (Col 37, lines 44-47 "the P4 picture is played back in the area 1, the P3 picture is played back in the area 2, the P2 picture is played back in the area 3, and the P1 picture is played back in the area 4 and the I picture in the area 5").

Regarding claim 25, Mishima et al disclose a reproducing device wherein said screen displays a frame of said main track data during said normal playback (Col 20, lines 22-28 "At the time of the normal playback, the coded data of the low resolution component and the coded data of the high resolution component which is the differential component between the low resolution portion and the data before being thinned into a low resolution are synthesized so that a picture with a complete resolution component can be decoded").

Regarding claim 26, Mishima et al disclose a reproducing device wherein said reproduction speed is set at a predetermined acceleration (Col 16, lines 60-64 "at the time of the special playback, the data to be accessed decreases so that a smooth special playback can be obtained by gradually decreasing the data amount to be accessed at the time of the special playback").

Regarding claim 27, Mishima et al disclose a reproducing device wherein said video data are read out at said reproduction speed (Col 20 lines 22-27 "At the time of the normal playback, the coded data of the low resolution component and the coded

data of the high resolution component which is the differential component between the low resolution portion and the data before being thinned into a low resolution are synthesized so that a picture with a complete resolution component can be decoded" and lines 39-43 "At the time of the special playback, a decoding mode is switched over in accordance with the operating state of the device so that a rough picture can be decoded by decoding only the coded data of low resolution" and Col 16, lines 60-64 "at the time of the special playback, the data to be accessed decreases so that a smooth special playback can be obtained by gradually decreasing the data amount to be accessed at the time of the special playback").

Regarding claim 28, Mishima et al disclose a reproducing device wherein a time period to decode said low resolution data is shorter than a time period to decode said main track data (Col 55, lines 25-29 "when only the low resolution component is arranged in summary at the front of the GOP, the ratio of the L component occupying the whole largely reduces so that an allowance can be made in the reading speed from the medium so that the skip search can be easily realized").

Regarding claim 29, Mishima et al disclose a reproducing device wherein said main track data and said low resolution data are on said information recording medium (Col 20 lines 22-27 "At the time of the normal playback, the coded data of the low resolution component and the coded data of the high resolution component which is the differential component between the low resolution portion and the data before being thinned into a low resolution are synthesized so that a picture with a complete resolution component can be decoded" and lines 39-43 "At the time of the special playback, a

decoding mode is switched over in accordance with the operating state of the device so that a rough picture can be decoded by decoding only the coded data of low resolution" and Col 1, lines 14-16 "a digital video signal record and playback device for recording and playing back on a medium such as an optical disc").

Regarding claim 30, Mishima et al disclose a reproducing device wherein said main track data and said low resolution data are intermittently recorded on a physically same track of said information recording medium (Col 55, lines 11-20 "FIG. 65 is a view showing an example of the result of data constitution... In the sequence c, symbol C denotes a component coded by a rough quantization, and A a residual component by the rough quantization, respectively").

Regarding claim 32, Mishima et al disclose a reproducing device wherein, at a transition from said normal playback to said high-speed playback, an acceleration in accordance with time required to read out and decode said low resolution data is calculated so as to perform acceleration at said calculated acceleration (Col 16, lines 60-64 "at the time of the special playback, the data to be accessed decreases so that a smooth special playback can be obtained by gradually decreasing the data amount to be accessed at the time of the special playback").

Regarding claim 33, Mishima et al disclose a reproducing device, wherein said screen has a fixed arrangement when acceleration and deceleration are terminated so as to perform normal playback, said fixed arrangement being in accordance with said reproduction speed presently existing (Col 15, lines 13-16 " at the time of the normal

playback, the data is rearranged on the basis of the address with the result that disadvantage resulting from the division of data can be prevented when played back").

Regarding claim 34, Mishima et al disclose a method for playing back video data recorded on an information recording medium, the method comprising the steps of:

- setting a reproduction speed of the video data (Col 37, line 36 "special playback is performed"), said reproduction speed during a high-speed playback being higher than said reproduction speed during a normal playback (Col 29, lines 54-55 "a 15 times speed special playback picture can be obtained");
- reading out said video data from the information recording medium (Col 27, lines 53-55 "video information read from the recording medium is inputted from an input terminal 20 to a demodulator 21"), said video data including main track data being read out during said normal playback and low resolution data being read out during said high-speed playback (Col 20, lines 39-43 "At the time of the special playback, a decoding mode is switched over in accordance with the operating state of the device so that a rough picture can be decoded by decoding only the coded data of low resolution"); and
- dividing a screen into a number of areas during said high-speed playback (Col 37, lines 44-47 "the P4 picture is played back in the area 1, the P3 picture is played back in the area 2, the P2 picture is played back in the area 3, and the P1 picture is played back in the area 4 and the I picture in the area

5"), said number being variable in accordance with said reproduction speed (Col 29, lines 45-55 "Consequently, when the high speed playback speed is increased, after only the data of the area 2 located at the central part of the screen is read the optical head jumps to the front of the subsequent GOP so that only the data in the area 2 that can be read is inputted to the buffer memory 22. In this case, the format decoder 23 decodes only the area 2 of the I picture that can be read. On the other hand, the areas 1 and 3 whose data are not read are masked by the gray data, and a high speed playback picture is outputted. Consequently, in the case where one GOP is set to 15 frames, a 15 times speed special playback picture can be obtained"),

- wherein an output image from said video data is viewable on said screen (Col 33, lines 38-40 "the data which can be read is decoded in units of macroblocks and is outputted as a high speed playback picture").

Regarding claim 35, Mishima et al disclose a method comprising partially displaying different frames of said low resolution data within each of said areas (Col 37, lines 44-47 "the P4 picture is played back in the area 1, the P3 picture is played back in the area 2, the P2 picture is played back in the area 3, and the P1 picture is played back in the area 4 and the I picture in the area 5").

Regarding claim 36, Mishima et al disclose a method comprising displaying a frame of said main track data during said normal playback, said screen during said normal playback being a single area (Col 15, lines 13-16 "at the time of the normal

playback, the data is rearranged on the basis of the address with the result that disadvantage resulting from the division of data can be prevented when played back").

Regarding claim 37, Mishima et al disclose a method comprising setting said reproduction speed at a predetermined acceleration (Col 16, lines 60-64 "at the time of the special playback, the data to be accessed decreases so that a smooth special playback can be obtained by gradually decreasing the data amount to be accessed at the time of the special playback").

Regarding claim 38, Mishima et al disclose a method wherein, within the step of reading out said video data, said video data is read out at said reproduction speed (Col 16, lines 60-64 "at the time of the special playback, the data to be accessed decreases so that a smooth special playback can be obtained by gradually decreasing the data amount to be accessed at the time of the special playback").

Regarding claim 39, Mishima et al disclose a method wherein a time period to decode said low resolution data is shorter than a time period to decode said main track data (Col 55, lines 25-29 "when only the low resolution component is arranged in summary at the front of the GOP, the ratio of the L component occupying the whole largely reduces so that an allowance can be made in the reading speed from the medium so that the skip search can be easily realized").

Regarding claim 40, Mishima et al disclose a method wherein said main track data and said low resolution data are on said information recording medium (Col 1, lines 14-16 "a digital video signal record and playback device for recording and playing back on a medium such as an optical disc").

Regarding claim 41, Mishima et al disclose a method wherein said main track data and said low resolution data are intermittently recorded on a physically same track of said information recording medium (Col 55, lines 11-20 "FIG. 65 is a view showing an example of the result of data constitution... In the sequence c, symbol C denotes a component coded by a rough quantization, and A a residual component by the rough quantization, respectively" and Col 70, line 66 – Col 71, line 4 "The video bitstream is extracted and inputted to the multiplexer 142. The multiplexer 142 sends the low resolution component data to the second variable-length decoder 145 while sending other data items to the first variable-length decoder 144 via the switch 143").

Regarding claim 43, Mishima et al disclose a method comprising:

- calculating an acceleration in accordance with time required to read out and decode said low resolution data, said acceleration being calculated at a transition from said normal playback to said high-speed playback (Col 16, lines 60-64 "at the time of the special playback, the data to be accessed decreases so that a smooth special playback can be obtained by gradually decreasing the data amount to be accessed at the time of the special playback"); and
- performing acceleration at said calculated acceleration (Col 17, lines 3-5 "regarding the data divided by a plurality of dividing means, the amount of data to be read can be adjusted in accordance with the special playback speed to cope with a wide scope of the special playback speed").

Regarding claim 44, Mishima et al disclose a method comprising:

- fixing an arrangement of said screen upon termination of acceleration and deceleration (Col 15, lines 13-16 " at the time of the normal playback, the data is rearranged on the basis of the address with the result that disadvantage resulting from the division of data can be prevented when played back"), said fixed arrangement being in accordance with said reproduction speed presently existing (Col 15, lines 13-16 " at the time of the normal playback, the data is rearranged on the basis of the address with the result that disadvantage resulting from the division of data can be prevented when played back"); and
- performing said normal playback (Col 15, lines 13-16 " at the time of the normal playback, the data is rearranged on the basis of the address with the result that disadvantage resulting from the division of data can be prevented when played back").

Regarding claim 45, Mishima et al disclose a recording medium on which a program readable by a computer is recorded, the program being for playing back video data recorded on an information recording medium, the program comprising the steps of:

- setting a reproduction speed of the video data (Col 37, line 36 "special playback is performed"), said reproduction speed during a high- speed playback being higher than said reproduction speed during a normal playback

(Col 29, lines 40-42 "when the high speed playback speed is increased, the time for reading the data on the disc becomes short");

- reading out said video data from the information recording medium, said video data including main track data being read out during said normal playback and low resolution data being read out during said high-speed playback (Col 55, lines 11-20 "FIG. 65 is a view showing an example of the result of data constitution... In the sequence c, symbol C denotes a component coded by a rough quantization, and A a residual component by the rough quantization, respectively" and Col 70, line 66 – Col 71, line 4 "The video bitstream is extracted and inputted to the multiplexer 142. The multiplexer 142 sends the low resolution component data to the second variable-length decoder 145 while sending other data items to the first variable-length decoder 144 via the switch 143"); and
- dividing a screen into a number of areas during said high-speed playback (Col 37, lines 44-47 "the P4 picture is played back in the area 1, the P3 picture is played back in the area 2, the P2 picture is played back in the area 3, and the P1 picture is played back in the area 4 and the I picture in the area 5"), said number being variable in accordance with said reproduction speed (Col 29, lines 45-55 "Consequently, when the high speed playback speed is increased, after only the data of the area 2 located at the central part of the screen is read the optical head jumps to the front of the subsequent GOP so that only the data in the area 2 that can be read is inputted to the buffer

memory 22. In this case, the format decoder 23 decodes only the area 2 of the I picture that can be read. On the other hand, the areas 1 and 3 whose data are not read are masked by the gray data, and a high speed playback picture is outputted. Consequently, in the case where one GOP is set to 15 frames, a 15 times speed special playback picture can be obtained"),

- wherein an output image from said video data is viewable on said screen (Col 33, lines 38-40 "the data which can be read is decoded in units of macroblocks and is outputted as a high speed playback picture").

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 18 and 31, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mishima et al (6,009,236).

Regarding claim 18, Mishima et al disclose a reproducing device adapted to play back video data recorded on an information recording medium, the reproducing device comprising:

- a controller adapted to set reproduction speeds of the video data (Col 37, line 36 "special playback is performed"), said reproduction speeds including a normal playback and a high-speed playback (Col 15, lines 13-14 "the normal

playback" and Col 29, line 53 "a high speed playback picture is outputted"), said high-speed playback being at a higher speed than said normal playback (Col 29, lines 54-55 "a 15 times speed special playback picture can be obtained");

- a drive adapted to read out said video data from the information recording medium (Col 27, lines 53-55 "video information read from the recording medium is inputted from an input terminal 20 to a demodulator 21"), said video data including main track data being read out during said normal playback and low resolution data being read out during said high-speed playback (Col 20, lines 39-43 "At the time of the special playback, a decoding mode is switched over in accordance with the operating state of the device so that a rough picture can be decoded by decoding only the coded data of low resolution"); and
- a decoder adapted to generate an output image from said video data, said output image being viewable on a screen (Fig. 10, item 782 "Video Signal Decoder" and item 784 "Monitor"),
- wherein, during said normal playback, said screen displays a frame of said main track data (Col 20, lines 22-28 "At the time of the normal playback, the coded data of the low resolution component and the coded data of the high resolution component which is the differential component between the low resolution portion and the data before being thinned into a low resolution are

synthesized so that a picture with a complete resolution component can be decoded"),

- wherein, during said high-speed playback, said screen is divided into areas (Col 37, lines 44-47 "the P4 picture is played back in the area 1, the P3 picture is played back in the area 2, the P2 picture is played back in the area 3, and the P1 picture is played back in the area 4 and the I picture in the area 5"), said areas of said screen partially displaying different frames of said low resolution data (Col 20, lines 39-43 "At the time of the special playback, a decoding mode is switched over in accordance with the operating state of the device so that a rough picture can be decoded by decoding only the coded data of low resolution" and Figs 26A-26D), and
- wherein, at a transition from said high-speed playback to said normal playback, an acceleration in accordance with time required to read out and decode said main track data is calculated (Col 32, lines 39-50 "At the time of a high speed playback, with respect to the data recorded on the recording medium such as an optical disc or the like, the optical head jumps to the front of the GOP in the unit of a definite time to read the data part of the I picture in accordance with the header information and the data is demodulated at the demodulator 21 to be inputted to the buffer memory 22").

Further regarding claim 18, Mishima et al disclose the transition from high-speed to normal playback (Col 51, lines 42-43 "normal continuous playback or the like is inputted to the mode switcher 76 from the microcomputer"), but do

not explicitly disclose a deceleration corresponding to the acceleration going from normal to high speed playback.

The Examiner takes official notice that, in the absence of specific teaching to the contrary, it is common sense to those of skill in the art that a process that is symmetrical to another process would be composed of symmetrical elements, and therefore the deceleration corresponding to the acceleration would be an obvious modification to Mishima et al.

Regarding claim 31, Mishima et al disclose the transition from high-speed to normal playback (Col 51, lines 42-43 "normal continuous playback or the like is inputted to the mode switcher 76 from the microcomputer"), but do not explicitly disclose a deceleration corresponding to the acceleration going from normal to high speed playback.

The Examiner takes official notice that, in the absence of specific teaching to the contrary, it is common sense to those of skill in the art that a process that is symmetrical to another process would be composed of symmetrical elements, and therefore the deceleration corresponding to the acceleration would be an obvious modification to Mishima et al.

Regarding claim 42, Mishima et al disclose a method comprising:

- calculating an acceleration in accordance with time required to read out and decode said main track data, said acceleration being calculated at a transition from said high-speed playback to said normal playback (Col 16, lines 60-64 "at the time of the special playback, the data to be accessed decreases so

that a smooth special playback can be obtained by gradually decreasing the data amount to be accessed at the time of the special playback"); and

Further regarding claim 42, Mishima et al disclose the transition from high-speed to normal playback (Col 51, lines 42-43 "normal continuous playback or the like is inputted to the mode switcher 76 from the microcomputer"), but do not explicitly disclose a deceleration corresponding to the acceleration going from normal to high speed playback.

The Examiner takes official notice that, in the absence of specific teaching to the contrary, it is common sense to those of skill in the art that a process that is symmetrical to another process would be composed of symmetrical elements, and therefore the deceleration corresponding to the acceleration would be an obvious modification to Mishima et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES A. FLETCHER whose telephone number is (571)272-7377. The examiner can normally be reached on 7:45-5:45 M-Th, first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on (571) 272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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